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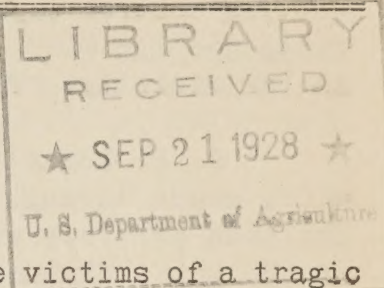
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INSECTS AFFECTING MAN AND ANIMALS

F. C. Bishopp, in Charge



On August 4 W. E. Dove and Frank Adams were the victims of a tragic accident which resulted in the death of Mr. Adams. They were returning to their station at Uvalde, Tex., from a trip in an automobile to a nearby mountain canyon. In crossing what is usually a dry stream bed they encountered a sudden rush of water caused by a cloudburst higher up in the mountains. Both men and the car were swept down stream by the force of the water. Mr. Dove, by great good fortune, managed to lay hold of the branches of a tree, and some hours later was rescued from this position. Mr. Adams was not seen alive after the water struck the car. His body was found the next day, some distance below the river crossing.

Mr. Adams was a temporary field assistant at the time of his death, and was assisting Mr. Dove in studies of goat lice. He held the degree of Master of Science from the Southern Methodist University, located at Dallas, Tex. He was a careful and conscientious worker and showed great promise as an entomologist.

On August 29 F. C. Bishopp and Dr. Marion Imes, of the Bureau of Animal Industry, left Washington on a trip to points in New York State, to investigate possible sites for cooperative work on control of cattle grubs, to be shared by the Bureau of Entomology and the Bureau of Animal Industry.

Wesley G. Bruce has accepted an appointment as Assistant Entomologist, and will be assigned to work on cattle grubs, with headquarters at Fargo, N. D.

R. A. Roberts has accepted a temporary appointment as Field Assistant, and will be assigned to the field laboratory at Uvalde, Tex.

C. E. Abbott, a Junior Entomologist at the Dallas, Tex., laboratory, has resigned, effective August 31.

This Division was represented at the Fourth International Entomological Congress at Ithaca by F. C. Bishopp and W. V. King, both of whom presented illustrated papers. The title of Mr. Bishopp's paper was "The cattle-grub (*Hypoderma*) problem from an international point of view." Doctor King's paper was entitled "On the development of malaria parasites in the mosquito host."

DECIDUOUS-FRUIT INSECT INVESTIGATIONS

A. L. Quaintance, in Charge

G. F. Moznette, in charge of the pecan insect laboratory at Albany, Ga., spent August 1 to 4 at Spring Hill, Ala., near Mobile, conducting control experiments with the black aphid of the pecan, Myzocallis fumipennellus Fitch, which has been causing serious damage to pecan trees in the vicinity. The feeding of this aphid leads to defoliation.

G. F. Moznette reports that the two recent tropical disturbances which swept through Georgia did considerable damage to the pecan crop. The loss per tree will average from 1 to 4 pounds, depending on the age of the tree. Under some large trees from 500 to 600 nuts have been gathered from the ground.

John F. Payne, pilot of the Tallulah, La., field laboratory, spent August 8 and 9 in airplane dusting of pecan trees at Albany, Ga., in co-operation with G. F. Moznette.

During the week of August 6 to 11 H. S. Adair, in charge of the pecan insect field laboratory at Brownwood, Tex., visited Houston, Tex., and collected some pecan material there, finding that damage by the nut-case bearer had been unusually heavy. The laboratory at Brownwood received some material from there earlier in the season, and a number of hyperparasites were reared. These insects may account for the heavy infestation in the vicinity of Houston in the present season. One grower estimated his loss at about 90 per cent of a full crop, and similar damage was reported by others. On his return trip from Houston to Brownwood, Mr. Adair stopped at the Texas A. & M. College, College Station, and conferred with the Experiment Station entomologists and extension workers who are especially interested in pecans.

C. H. Phipps, Associate Entomologist, Dr. H. C. Hildreth, Horticulturist engaged in blueberry investigations, and Robert Chandler, Assistant Horticulturist, all of the Maine Experiment Station, Prof. K. H. Salman, of the Department of Entomology, Massachusetts Agricultural College, Warren Pettigrew, of the Maine State Department of Agriculture, and C. W. Collins, of the Gipsy Moth and Brown-tail Moth Investigations, Bureau of Entomology, visited the blueberry maggot field laboratory, Cherryfield, Me., late in July and early in August.

On August 14, Fred E. Brooks, in charge of the field laboratory, at French Creek, W. Va., visited Washington on business relating to his work on nut insects.

C. T. Blanz, a resident of Washington, D. C., has been given temporary appointment to assist in investigations and control of nut weevils in the government chestnut orchard at Bell, Md.

Prof. Bernard Trouvelot, entomologist at the Institut des Recherches Agronomiques, at Versailles, France, visited the field laboratory at Yakima, Wash., on August 27 and 28.

In the codling moth work at the Yakima field laboratory during the years 1922 to 1928, inclusive, 180 laboratory tests of ovicides have been made, using a total of more than 50,000 codling moth eggs. In the same period 900 laboratory tests of larvicides have been made, using 4,500 apples and 45,000 hatched larvae.

Dr. A. L. Quaintance attended the Fourth International Congress of Entomology, at Ithaca, N. Y., and read E. J. Newcomer's paper on "Codling Moth Conditions in the Northwest," Mr. Newcomer not being able to be present.

Dr. Lon A. Hawkins, Physiologist, of the Bureau of Plant Industry, visited the field laboratory at Yakima, Wash., August 10. A. Lloyd Ryall, Junior Pomologist, working under the direction of Dr. Hawkins, is quartered at the Yakima field laboratory for cooperative work in connection with the problem of spray residues.

B. E. Montgomery, who has been serving as Field Assistant at the field laboratory at Vincennes, Ind., during the summer, resigned August 31. He has accepted a graduate assistanship at the Iowa State Agricultural College, at Ames, and is to work there for his doctorate.

Dr. B. A. Porter, of the Vincennes, Ind., field laboratory, attended the International Congress of Entomology, held at Ithaca, N. Y., August 12 to 18, and presented a paper discussing the problem of the codling moth, as it exists in America at the present time.

Dr. B. A. Porter also attended the summer meeting of the Indiana State Horticultural Society at Evansville, Ind., August 2, and the meeting of the Kentucky State Horticultural Society at Henderson, Ky., August 3. At the latter meeting the oriental peach moth, which has recently appeared in southern Indiana and western Kentucky, was informally discussed.

Contributions from the Japanese Beetle Laboratory

On August 14 Loren B. Smith presented a paper on the Japanese beetle at the meeting of the Fourth International Congress of Entomology at Ithaca, N. Y.

C. H. Ballou, of the Japanese Beetle Laboratory, served as official Spanish interpreter at the Fourth International Congress of Entomology.

Centeter cinerea Aldrich, the introduced tachinid parasite of the adult Japanese beetle, was released in large numbers during July and August at Bridgeport, Conn., Harrisburg, Pa., and Noble, Pa. Following the release of the flies many beetles were recovered upon which eggs had been deposited.

The colony of the Japanese wasp Tiphia popilliavora Rohwer, established near Riverton, N. J., has more than maintained its vigorous condition. During August sufficient adults were present to permit the release

of 18 additional colonies. A total of 28 subcolonies in all have been released from the parent colony. A recent check-up of the points where colonies of this insect were set free in 1927 revealed the fact that the 10 subcolonies are all well established.

Conditions in the central portion of the area heavily infested by the Japanese beetle indicate a slight reduction in the population of the beetle, as compared with conditions during the last four or five years.

Foreign visitors in August at the headquarters of the work on the Japanese beetle, at Moorestown, N. J., included J. C. F. Fryer, of the Ministry of Agriculture, and Dr. A. D. Imms, of the Rothamstead Experiment Station, Harpenden, Herts, England; Dr. Bernard Trouvelot, Institut des Recherches Agronomiques, Paris, France; Dr. Filippo Silvestri, Regio Instituto Superiore d'Agricoltura, Portici, Italy; Dr. Martin Schwartz, Director Biologische Reichsanstalt für Land- und Forstwirtschaft, Berlin-Dahlem, and Dr. K. W. Baunacke, Abteilung für Pflanzenschutz der Statlichen Landwirtschaftlichen Versuchsanstalt, Dresden, Germany; Dr. Jaromir Samal, of the University of Prague, Czecho-Slovakia; and Dr. Karl Knechtel, Zoological Laboratory, University, Bucharest, Rumania. From Ontario were C. S. Thompson, of the Ontario Department of Agriculture, and A. B. Baird, of the Entomological Branch, both from Chatham. Visitors from the United States included S. M. Dohanian and D. W. Jones, of the laboratory for corn-borer research at Arlington, Mass., Mr. and Mrs. B. D. Van Buren, Department of Agriculture and Markets, Albany, N. Y., Don C. Mote, of the State Agricultural Experiment Station, Corvallis, Oreg., S. E. Flanders, Saticoy, Calif., and O. H. Swezey, Honolulu, Hawaii.

Members of the Fourth International Congress of Entomology made an official trip to the headquarters of the work on the Japanese beetle, at Moorestown, N. J., Monday, August 27. Upon arriving at the laboratory the guests were shown informally the work in progress under the several projects. Especial interest was shown in the constant-temperature apparatus used in connection with the studies of soil insecticides. Two hot-water baths were in operation, each having a capacity of 300 gallons, and arranged for automatically maintaining constant temperatures. Of particular interest also were a vacuum and pressure tank used in studying problems relating to fumigation, chemical laboratories for special problems, the parasite cellars, where the temperatures and the humidity are made to correspond to the temperatures and moisture of the soil, electrical traps, and other equipment. Unfortunately, the delegates had to entrain for New York shortly after noon, and it was therefore impossible for them to spend more than a very brief time on any particular phase of the work. About 32 delegates were present. Those who registered from abroad included Dr. Bledowski, of Poland, Dr. Vayssiere and Dr. Regnier, of France, Dr. Stellwaag and Dr. Skwarra, of Germany, Dr. G. Fox Wilson, of England, Dr. N. A. Kemner, of Sweden, Dr. Streda, of Hungary, Dr. Damph, of Mexico, Dr. Efflataun, of Egypt, Dr. Thomsen, of Denmark, Dr. Roepke, of Holland, Dr. N. M. Rimsky-Korsakov and Dr. Saitzev, of Russia,

and Dr. and Mrs. Saalas, of Finland. From our own country were registered W. W. Chapman, Miss A. Franklin, and S. C. Harris, Philadelphia, Pa., Prof. H. J. Quayle, Riverside, Calif., and I. L. Ressler, New York City.

FOREST-INSECT INVESTIGATIONS

F. C. Craighead, in Charge

Dr. F. C. Craighead attended the Fourth International Entomological Congress, held at Ithaca, N. Y., from August 12 to 16. He presented a paper on "The organization and activities of the division of forest insects," and also a summary of J. M. Miller's paper on "Barkbeetle epidemics in relation to windfalls."

William Middleton also attended the Congress from August 14 to 18, and presented a paper entitled "Factors influencing the activity of shade-tree insects and the utilization of these in control work."

Dr. T. E. Snyder likewise attended the Congress from August 12 to 18. He presented a paper entitled "Termites modify building codes," at the sessions of the section of forest entomology. A fairly large representation of the workers on termites of the world were in attendance at these meetings.

Dr. S. A. Graham, of the University of Michigan, an agent of this office, also attended the Congress, and presented a paper on "The larch sawfly in forestry."

Another attendant at these meetings was H. J. MacAloney, of the field laboratory at Amherst, Mass.

The special sessions on forest insects were very well attended. Sixty-five American and European forest entomologists and foresters were there, and many exceptionally interesting papers were presented, two of them by members of the United States Forest Service. E. N. Munns, in charge of the Forest Service Experiment Stations, read a paper on "Silvicultural practices in the control of forest insects," and Philip Wakeley, of the Southern Forest Experiment Station at New Orleans, La., presented a paper on the pine tip moth, Rhyacionia frustrana Comst.

At the close of the last special session on forest entomology a vote of thanks was extended to Professor Glenn Herrick for the splendid program he had prepared and for the assistance and the many courtesies that he had rendered those attending. A motion was carried requesting that the special session on forest entomology be made a permanent part of the Congress.

TRUCK-CROP INSECT INVESTIGATIONS

J. E. Graf, in Charge

Walter Carter, Twin Falls, Idaho, visited Washington, D. C., August 6 to 12, to confer with Bureau officials regarding investigations on the sugar-beet leafhopper.

J. E. Dudley, Jr., Madison, Wis., visited Washington, D. C., August 13, for conference on the work of the Division in Wisconsin, and especially with regard to investigations on the pea aphid.

The following employees of this Division attended the meetings of the Fourth International Entomological Congress, Ithaca, N. Y., August 12 to 18; C. O. Bare, Sanford, Fla., R. Cecil, Geneva, N. Y., Walter Carter, Twin Falls, Idaho, D. E. Fink, Philadelphia, Pa., N. F. Howard, Columbus, Ohio, C. H. Popenoe, Sligo, Md., E. M. Searls, Madison, Wis., and Alfred Weed, Madison, Wis.

C. G. Woodbury, of the National Cannery Association, Washington, D. C., visited the field laboratories at Alhambra and Garden Grove, Calif., about the middle of August.

Dr. Lon A. Hawkins, Bureau of Plant Industry, Washington, and W. R. Barger, of the field laboratory of the Bureau of Plant Industry at Lamada Park, Calif., visited the field laboratory at Alhambra, Calif., on August 17.

Prof. R. W. Harned, State Entomologist of Mississippi, and Troy Thompson, Nursery Inspector for the State of Alabama, were recent visitors at the Biloxi, Miss., field laboratory.

The temporary appointments of H. L. Ratcliffe, Chadbourn, N. C., and R. W. Burgess, San Jose, Calif., were terminated on August 31.

D. P. Ellington, Picayune, Miss., resigned his temporary appointment as Field Assistant August 15.

E. S. Parkinson has been given a temporary appointment as Field Assistant at Columbus, Ohio.

COTTON-INSECT INVESTIGATIONS

B. R. Coad, in Charge

On August 15 B. R. Coad, in charge of the field laboratory at Tallulah, La., with R. E. Mitchell, pilot, took off for El Paso, Tex., in the newly purchased Stinson Detrolter airplane, en route to Tlahaulilo, Mexico, where he will inaugurate studies of the migration of the moth of the pink bollworm.

Another pilot and a mechanic accompanied Mr. Coad, they flying one of the DeHaviland airplanes of the field laboratory fleet, which will be used as an auxiliary and supply plane for the Stinson plane. The Stinson plane is equipped with insect traps for capturing pink bollworm moths in flight. Lieutenant pilot aviator Jose Leon, of the Mexican Aviation Service, convoyed Mr. Coad and party in the flight from El Paso to Tlahaulilo on August 22. Dr. F. A. Fenton and G. W. Berrier, of the pink bollworm field laboratory at El Paso, Tex., and P. A. Glick, of the laboratory at Tallulah, who made the trip to Tlahaulilo by train, complete the staff of workers who will conduct the investigations of the pink bollworm in Mexico.

Joseph E. Culpepper, Robert P. Patty, and Bertram A. Moers, temporary field assistants at the Tallulah field laboratory, resigned in August and returned to college.

At the Fourth International Congress of Entomology, held at Ithaca, N. Y., August 12 to 18, there was a sub-section on cotton insects, of which Prof. J. M. Robinson was chairman, Prof. J. Gray vice chairman, and Dr. J. W. Folsom secretary. The attendance numbered 31, and much interest was manifested. Dr. C. L. Marlatt opened the session with an informal talk on the present status of the pink bollworm in the United States and Mexico. Five papers were presented by their authors, as follows: F. G. Holdaway, of Adelaide, South Australia, "The pink bollworm situation in Australia"; Dr. V. V. Nikolsky, Entomologist of the Chief Cotton Committee, Moscow, Russia, "The most important cotton-pest insects in Turkestan and Caucasia"; Dr. W. E. Hinds, Entomologist, Louisiana State University, "The development of a control program for the Mexican cotton boll weevil and some of its results"; R. W. Harned, of the Mississippi A. and M. College, "Mississippi methods of enforcing quarantine against cotton pests"; and Dr. W. V. King, in charge of the field laboratory of the Bureau at Mound, La., "The cotton fleahopper." Abstracts were read of the following papers by the authors named: G. N. Wolcott, Entomologist, of the agricultural experiment station at Lima, Peru, "The pink bollworm in Haiti"; H. A. Ballou, Commissioner of Agriculture of the British West Indies, Trinidad, "The status of the cotton leaf worm (Alabama argillacea Hbn.) in the West Indies"; H. H. King, Government Entomologist, Sudan, Egypt, "The pink bollworm (Platyedra gossypiella Saunders)"; B. R. Coad, in charge of Cotton Insect Investigations, Bureau of Entomology, "Cotton-insect control problems in the United States"; Dr. F. A. Fenton, in charge of the pink bollworm laboratory, El Paso, Tex., "Biological notes on the pink bollworm in Texas"; and R. E. McDonald, Entomologist, State of Texas, "Cotton-seed disinfection as a control for the pink bollworm." The Bureau of Entomology contributed an exhibit of cotton insects and their work and supplied a motion picture showing cotton dusting by airplane.

BEE CULTURE INVESTIGATIONS

James I. Hambleton, in Charge

Dr. A. P. Sturtevant, in charge of the United States Inter-mountain Bee Culture Field Laboratory at Laramie, Wyo., spent several days in the week of August 20 at the Bee Culture Laboratory, Somerset, Md., conferring with members of the staff about the work of the Laramie Station. He left to return to his station on August 27. While here Doctor Sturtevant also made a study of septicemia, a disease of adult bees recently discovered by Dr. C. E. Burnside. It is thought that this disease also exists in the Intermountain States.

Dr. Martin Schwartz, Reichministerium für Ernährung und Landwirtschaft, Berlin-Dahlem, Germany, visited the Laboratory on August 11.

Miss Winifred S. Hull, temporarily employed as Field Assistant at the Bee Culture Laboratory, resigned on August 25 to resume her studies at the Medical School of Johns Hopkins University.

Apicultural Section, Fourth International Congress of Entomology

Jas. I. Hambleton, Dr. C. E. Burnside, Dr. L. M. Bertholf, and Miss Ethel L. Coon, of the Bee Culture Laboratory, at Somerset, Md., and Dr. A. P. Sturtevant, of Laramie, Wyo., attended the Fourth International Congress of Entomology, at Ithaca, New York, August 13 to 18. Dr. Burnside, Dr. Bertholf, and Mr. Hambleton presented the following papers, respectively: "A septicemic condition of adult honeybees," "Reactions of light in honeybees," and "Apparatus for measuring the flight activity of honeybees."

Dr. Lloyd R. Watson, formerly of the Bee Culture Laboratory, but now with the Genetics Department, Cornell University, gave several demonstrations of the artificial insemination of honeybees, which were very well attended by members of the congress.

A paper presented by Dr. A. G. Lochhead, Central Experimental Farms, Ottawa, Canada, on "Studies on the Etiology of European Foulbrood," aroused much interest. Dr. Lochhead showed that cultures of Bacillus alvei under certain conditions transform into a symplasm from which develop colonies of bacteria to all appearances identical with Bacillus pluton. This strongly indicates that Bacillus alvei and Bacillus pluton are the same organism, and if Dr. Lochhead succeeds in infecting healthy colonies of bees with a growth of Bacillus pluton which he secures from his cultures of Bacillus alvei there will be no doubt that the two organisms, heretofore considered entirely distinct, are one and the same.

Doctor Burnside's paper on septicemia brought out the interesting and rather unusual fact that the causative organism named by him, Bacillus apisepticus, enters the bee through the respiratory system, and not through the alimentary tract.

S. H. Skaife, of the Department of Public Instruction, Capetown, Union of South Africa, gave an interesting account of beekeeping in South Africa. He stated, among other things, that their two common races of honeybees are not the same as those occurring in the United States. He emphasized the precautions that are being taken in South Africa to prevent the entry of American foulbrood. This disease does not occur there at the present time, and for this reason all foreign importations of honey and bees are prohibited.

A number of excellent papers by Russian investigators were presented, among which may be mentioned those of Dr. W. W. Alpatov, of the University of Moscow, on "Variations in honeybees from the theoretical and practical points of view," Prof. A. F. Gubin, Odinzowc, Moscow, on "The work of the Moscow Apicultural Experiment Station," and A. Skorikov, of the State Institute for Experimental Agronomy, Leningrad, on "The employment of Caucasian bees in the fertilization of red clover." In this paper was reported the finding of some Caucasian bees with tongues considerably longer than the tongues of the average Italian or German bees.

Ethel Ronzoni and Dr. George H. Bishop, of the Washington University School of Medicine, St. Louis, Mo., presented a paper on "Sugar metabolism in honeybee larvae."

Doctor Bertholf, in his paper on "Reactions of light in honeybees," showed that the stimulating efficiency in the spectrum for honeybees is almost the same as that for humans, reaching its maximum in the yellow-green. In the shorter wave-lengths the efficiency for bees is considerably higher than for humans. The converse is true for long waves.

Dr. Louis Bahr, Bakteriologisk Laboratorium, Ratin, Copenhagen, brought up for discussion the establishment of an international bee-journal, to record research in the field of apiculture, both from the scientific and the purely practical points of view. Another matter brought up for discussion was the advisability of the affiliation of the Apis Club, an international apicultural organization, with the International Congress of Entomology. If this were done the Club would still continue to hold its annual meetings in England, as in former years, but in addition would hold an international meeting at each time and place that the Congress meets.

One of the special social features of the Congress for those interested in apiculture was a picnic for the Section of Apiculture, arranged by Dr. E. F. Phillips and his students, which was held on Thursday evening in the rear of Roberts Hall. About sixty persons were in attendance.

TAXONOMIC INVESTIGATIONS

Harold Morrison, in Charge

P. H. Timberlake, of the Citrus Experiment Station, Riverside, Calif., spent August 1 to 11 in the National Museum, consulting with the Bureau specialists in Hymenoptera and studying the collection of bees and parasitic Hymenoptera. While here, Mr. Timberlake deposited in the Museum collection types of many of his species of bees of the genus *Perdita*.

R. L. Taylor, of the Bussey Institution, was in the National Museum August 6 to 8, discussing certain phases of a project on the insects reared from the burrows of the white-pine weevil, *Pissodes strobi*. The insects obtained by Mr. Taylor were determined by the Bureau specialists.

Dr. C. E. Mickel spent August 10 to 11 and August 20 to 22 in Philadelphia, studying type specimens of Mutillidae.

Prof. T. B. Mitchell, of the Department of Zoology and Entomology, North Carolina State College, called at the Museum August 18 to study certain bees in connection with his work on the genus *Megachile*.

R. C. Shannon, of the Rockefeller Foundation, returned to Washington August 20, after spending six months in Peru. Mr. Shannon will be in the Museum about six weeks, working up some insects collected in connection with his investigations of verruga fever--a disease known only in Peru.

The members of the Taxonomic Investigations who attended the Fourth International Entomological Congress at Ithaca, N. Y., August 12 to 18, were Dr. H. Morrison, Dr. A. G. Böving, Dr. C. E. Mickel, August Busck, A. B. Gahan, Carl Heinrich, Miss Grace Glance, and Miss Louise Russell. At the Congress, in a forum on problems of taxonomy, Dr. Morrison led discussions on determinations. Dr. Böving presented a paper on the classification of beetles according to larval characters.

Dr. C. F. Adams, of the State Board of Health, Indianapolis, Ind., recently spent considerable time in the Division of Insects examining recent literature on Diptera.

Of the entomologists who visited Washington after the International Entomological Congress, a number, here named, spent considerable time in the Museum consulting with the Bureau specialists and examining collections. From Belgium was Antoine Ball, of the Royal Natural History Museum, Brussels. From Denmark, Prof. K. L. Henriksen, of the University Zoological Museum, Copenhagen, M. Thomsen, of the Royal Veterinary and Agricultural High School, Copenhagen, and J. P. Kryger, of the Department of Entomology. From England, Dr. James Waterston, F. W. Edwards, N. D.

Riley, and W. H. Tams, of the British Museum; G. Talbot, of the Hill Museum, Witley, Surrey; J. E. Collin, representing the Entomological Society of London; Dr. Malcolm Cameron and O. W. Richards, London; and L. B. Prout, Tring. From Finland, Dr. Uuno Saalas, representing the government of that country. From France, P. Vayssi re, of the Department of Agriculture, Dr. R. J. Jeannel, of the Museum of Natural History, Paris, and Prof. E. L. Bouvier, of the Department of Public Instruction. From Germany, Dr. Elizabeth Skwarra, representing the Prussian Kultus Ministerium; Dr. Walter Horn, of the Deutsches Entomogisches Institut; Dr. E. Martini, of the Hamburg Institute of Tropical Diseases; Baron Kurt von Rosen, of the Zoological Museum in Munich. From Italy, Prof. Filippo Silvestri, of the Royal Agricultural Institute in Portici. From Mexico, Dr. Alfons Dampf, of the Federal office for the Defense of Agriculture. From the Netherlands, J. B. Corporaal, of the Zoological Museum in Amsterdam. From Poland, Prof. R. Bledowski, of the Department of Agriculture. From Russia, Prof. M. N. Rimsky-Korsakov, of the Forest Institute, University of Leningrad, and Dr. A. B. Martynov, of the Academy of Sciences, Leningrad. From Spain, Dr. C. Bolivar y Pieltan and Gonzalo Ceballos, of the National Museum, Madrid.

CEREAL AND FORAGE INSECT INVESTIGATIONS

W. H. Larrimer, in Charge

W. H. Larrimer, Joe S. Wade, D. J. Caffrey, Philip Luginbill, August I. Balzer, C. M. Packard, Curtis Benton, L. H. Patch, T. E. Holloway, F. W. Poos, Milton E. Ryberg, and Geo. I. Reeves were in attendance at the Fourth International Congress of Entomology, held at Ithaca, N. Y., August 12 to 18.

V. L. Wildermuth, in charge of the field laboratory at Tempe, Ariz., spent August 22 to 25 in Washington, in consultation regarding work in the Southwest.

Geo. I. Reeves, in charge of the field laboratory at Salt Lake City, spent the week of August 6 in Washington for consultation regarding the alfalfa-weevil investigations.

LIBRARY

Mabel Colcord, Librarian

NEW BOOKS

American Association of Museums.

A bibliography of museums and museum work, by Ralph Clifton Smith. 302 p. Washington, D. C., American Association of Museums, 1928.

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Field book of North American mammals. 625 p. New York, G. P. Putnam's Sons, 1928.

Austin, Martin, and Theobald, F. V.

Economic zoology. Pyrethrum experiments. Jour. Southeastern Agr. Coll., Wye, Kent, No. 25, p. 59-67, July, 1928.

Baldensperger, P. J.

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Peier, Max.

Die Larven der Gattung Quedius (Col. Staph.). Zool. Jahrb. Bd. 55, Hft. 4, p. 329-350, illus., Jena, 1928. (Literaturverzeichnis, p. 350.)

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Kratkii uchebnik entomologii (Brief elementary entomology). 330 p. illus. Moscow and Leningrad, Gosudarstvennoe izdatel'stvo, 1928.

Campos, R., Francisco.

Catalogo preliminar de los Lepidopteros del Ecuador. Primera parte Ropaloceros Guayaquil, 1927. (Revista del Colegio Nacional Vicente Rocafuerte, Ano IX, Nums. 27-28, p. 1-106, 1927.)

Cook, M. T., and Gleason, H. A.

Ecological survey of the flora of Porto Rico. Jour. Dept. Agr. Porto Rico, v. 12, No. 1-2, 139 p. Jan. and Apr., 1928.

Dognin, Paul.

Note sur la faune de lépidoptères de Loja (Équateur), descriptions d'espèces nouvelles. . . . 4 v. col. plates. Paris, Bureaux au Journal, 1887-1896. Livr. 1, extrait du Naturaliste, revue illustree des sciences naturelles.

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Fox, Henry.

A revised, annotated list of the Dermaptera and Orthoptera of New Jersey. 58 p. Trenton, N. J., 1928. (N. J. Dept. Agr. Bur. Statistics and Inspection. Circ. 138.)

Gadeau de Kerville, Henri.

Voyage zoologique d'Henri Gadeau de Kerville en Syrie avril-juin 1908. 4 v. illus., plates (part col.), maps. Paris, J.-B. Baillière et fils, 1921-1926. (Vol. 1 contains parts on myriopèdes, odonates, orthoptères.)

Gibson, Arthur.

Insects of the flower garden and their control. 56 p., illus. Ottawa, May, 1928. (Canada Dept. Agr. Bul. 99, new ser.)

Gruse, W. A.

Petroleum and its products. A chemical discussion of the properties, refining and utilization of petroleum. Ed. 1. 377 p. New York, McGraw-Hill Book Company, Inc., 1928. (Bibliographical footnotes.)

Hogarth, A. M.

British mosquitoes and how to eliminate them, with a preface by Sir William Simpson. 127 p. plates. London, Hutchinson & Co., 1928.

Jordan, E. O.

A textbook of general bacteriology. . . Ed. 9, thoroughly rev. 778 p. Philadelphia, W. B. Saunders, 1928.

MacGregor, M. E.

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